Docket No. 00-0812
Staff Ex. 2.1

REBUTTAL TESTIMONY

OF

JAMES ZOLNIEREK

TELECOMMUNICATIONS DIVISION

ILLINOIS COMMERCE COMMISSION

DOCKET NO. 00-0812

Public Version

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Q. Please state your name and business address.

A. My name is James Zolnierek and my business address is 527 East Capitol Avenue, Springfield, Illinois 62701.

Q. Are you the same James Zolnierek that submitted direct testimony on behalf of Staff in this proceeding?

A. Yes.

Q. What is the purpose of your rebuttal testimony?

A. In my direct testimony I addressed two facets of the cost estimates Verizon has generated and submitted in this proceeding: 1) the reasonableness of the specific switched access cost estimates submitted by Verizon and 2) the reasonableness of the theoretical underpinnings of Verizon's ICM cost model. In each area I outlined several concerns. In my rebuttal testimony I will address the responses provided by Verizon witnesses Tucek and Dye to these concerns.

Section I: Recommendations

Q. In your direct testimony you recommended that the Commission reject Verizon's cost estimation methodology and its cost estimates.[1] Have you changed your recommendation?

A. No. In my direct testimony I indicated that I would reconsider my recommendation if Verizon corrected several deficiencies I identified with respect

to the Company's cost estimation methodology and its cost estimates. As explained below, Verizon has not corrected any of these deficiencies. Therefore, I recommend that the Commission reject both Verizon's cost methodology and its switched access cost estimates.

Section II: Verizon's Switched Access Cost Estimates

Q. In your direct testimony you compared Verizon's proposed switched access charges to its current intrastate switched access charges, demonstrating that Verizon's proposed rates increase its access charges by almost 17%.[2] How does Verizon respond to this comparison?

A. Mr. Dye provides an analysis that demonstrates that the increase is attributable to an increase in shared and common costs under Verizon's current estimation methodology.[3] Staff Witness Marshall addresses the appropriateness of the methodology Verizon uses to estimate and distribute shared and common costs. I will defer to Staff Witness Marshall on this issue.

I note, however, that Mr. Tucek's claim that "…one cannot simply compare existing rates with ICM's costs results and draw conclusions about ICM" is not correct. The rebuttal testimonies of both Mr. Dye and Mr. Tucek indicate that Verizon's costs estimates are substantially attributable to revisions in cost

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1 Direct Testimony of Staff Witness James Zolnierek ("Zolnierek Direct') at 2 and 3.
2 Id. at 15.
3 Attachment TD-1 to the Rebuttal Testimony of Verizon Witness Terry R. Dye ("Dye Rebuttal").

estimation methodology. There is little evidence to suggest that these changes are attributable to actual changes in input prices or the costs of doing business.

This should certainly give the Commission pause. That is, the burden is on Verizon to fully explain its model and why its revised methodology is superior and produces more accurate results than its previous cost estimation efforts.

Q. Does Mr. Dye's comparison of Verizon's proposed switching rates to those in North Carolina and Hawaii provide evidence that Verizon's rates are reasonable?

A. No, although such information might prove useful to the Commission in making its decision. Mr. Dye could make a few adjustments to his comparison that would make his analysis more relevant to this proceeding. First, while he labels the rate elements at issue in this proceeding in his example (they are the UNE switching rate and the switched access end office rate), he adds no such labels for the rates associated with North Carolina and Hawaii. Therefore the basis for the comparison is unclear. Mr. Dye should clearly label his exhibit.

Mr. Dye should also add a complete listing of Verizon's rates in its other service areas and provide cost differential information for these service areas. On the surface one would surmise that, at the very least, Hawaii is a much higher cost area than Illinois. In order to alleviate such concerns and make interstate rate comparison relevant, Mr. Dye should compare rate differentials across territories

to cost differentials across territories. For example, Mr. Dye's exhibit suggests that Verizon's proposed end-office switching rate is approximately 21% lower than the rate it charges in Hawaii. Mr. Dye's example would be more relevant if he were to show whether Verizon's costs in Illinois are less than 21% lower than Verizon's costs in Hawaii. This approach is not a novel approach. It is one that Verizon has employed and the FCC has relied on to determine rate reasonableness when evaluating incumbent local exchange carrier Section 271 petitions.[4]

Q. In your direct testimony you compared Verizon's proposed switched access charges to its interstate switched access charges in its GSTC service areas, GTOC Zone 1 service areas, GTOC Zone 2 service areas, and GTOC Zone 3 service areas. How does Verizon respond to this comparison?

A. Mr. Dye states that interstate rates are not cost-based and that as a result this analysis should be disregarded.[5]

Q. Do you agree with Mr. Dye's assessment?

A. As I indicated in my direct testimony, the FCC has reported that in 2000 Verizon earned 44.39% and 23.95% rates of return for its Illinois –COIL and Illinois-GAIL

[4] See FCC, In the Matter of Application by Verizon New England Inc., Bell Atlantic Communications, Inc. (d/b/a Verizon Long Distance), NYNEX Long Distance Company (d/b/a Verizon Enterprise Solutions), Verizon Global Networks Inc., and Verizon Select Services, Inc., for Authorization to Provide IN-Region, InterLATA Services in Rhode Island, CC Docket No. 01-324, Released February 22, 2002, at ¶¶ 37-55.

[5] Dye Rebuttal at 5.

study areas, respectively.[6] These figures appear to confirm Mr. Dye's assessment that its interstate rates are not cost based. However, they suggest that Verizon's interstate rates are well above cost.

Additionally Mr. Dye alleges that it is a violation of the spirit, if not the letter of the Commission's Administrative Rules for cost studies, to rely on rate of return figures that are based on embedded costs when evaluating Verizon's forward looking costs.[7] Mr. Dye is wrong. The Commission should be fully informed when it makes its decision whether or not to accept Verizon's model and estimated cost figures. Comparing Verizon's cost estimates to its interstate rates at least suggests that these estimates are far above embedded costs. In the interest of providing the Commission with a complete record to serve as a basis for an accurate and legally sustainable decision, Verizon's cost estimates should not be considered until Verizon provides a rational explanation for its results.

I note further that Mr. Tucek conducts a similar analysis, comparing Verizon's modeled investment to its historical book (i.e., embedded) costs restated on a reproduction cost basis.[8] Therefore, it is clear that Verizon does not completely reject such analyses.

Q. In summary, has Verizon provided persuasive evidence in its rebuttal that would indicate that its switched access cost estimates are reasonable?

[6] Id. at 9.
[7] Id. at 7.

A. No. I do not believe that Verizon has demonstrated that its costs estimates are reasonable.

Section III: Cost Estimation Methodology

Q. In your direct testimony you indicated that Verizon's model is very complex and that it was incumbent on the company to ensure that its model components are reasonable and that its ultimate cost estimates are reasonable and accurate. Has Verizon satisfied your concerns with its cost estimation methodology in its rebuttal testimony?

A. No. Verizon's further presentation of its model methodology in its rebuttal testimony has not convinced me that its model components are reasonable and that its ultimate costs estimates are reasonable and accurate. In fact, as demonstrated below, my concern with this issue has increased.

In my direct testimony, I identified three areas of concern regarding Verizon's estimation methodology:

> (1) Verizon employs inconsistent methodology, in some cases modeling existing or historical practices and procedures and in other cases modeling novel practices and procedures that Verizon does not and likely will not in the foreseeable future employ, (2) Verizon selects differing networks to model based upon the use to which the cost estimates will be applied (e.g., use as a basis for wholesale rates vs. use as a basis for retail rates) creating, when viewed as whole, inconsistencies between the different classes of estimates, (3) while Verizon's ICM and underlying models (SCIS

[8] Rebuttal Testimony of Verizon Witness David G. Tucek ("Tucek Rebuttal") at 5.

> and CostMod) manipulate inputs, such as switching prices, in a manner that creates cost estimates that depart from the manner in which Verizon actually incurs such costs, Verizon does not make allowances for such adjustments that would adequately account for growth and prevent overestimation of costs.[9]

In my opinion, in its rebuttal testimony Verizon has neither explained why my concerns are unwarranted, nor corrected for these concerns. In fact, as explained below, Verizon's explanations have increased my existing concerns.

Q. The first of the three concerns taken from your direct testimony, and listed above, is that Verizon's methodological approach is internally inconsistent. Does Verizon satisfy these concerns in its rebuttal testimony?

A. No. Mr. Tucek's supplemental explanation of Verizon's methodology further identifies the inherent inconsistency in Verizon's approach.

For example, in my direct testimony I expressed my concern regarding Verizon's methodological inconsistency by pointing to two components of Verizon's model, its switching component and its outside plant component.[10] I noted that Verizon adopts switch technology for its model according to historical placement within its own network, while adopting outside plant technology that Verizon may not actually deploy within the lifetime of Verizon's cost estimates.[11]

[9] Zolnierek Direct at 21.
[10] Id. at 22.
[11] Id. at 23 and 24.

In his rebuttal testimony, Mr. Tucek attempts to defend these inconsistencies by turning to Commission and FCC guidance on cost estimation methodology. For example Mr. Tucek asserts "…Mr. Zolnierek's suggestion that ICM should reflect the use of SS7 Gateway when the use of such technology is not part of Verizon's network plans is contrary to the Commission's rules."[12] That is, Verizon implies that it is contrary to the Commission rules to adopt switching technology that the Company does not plan to deploy within its own network. However, when asked whether Verizon would ever deploy the outside plant network modeled by ICM, Mr. Tucek answers bluntly "No. It will not."[13] Mr. Tucek attributes this choice to cost guidance provided by the FCC asserting that "[w]hile Verizon prefers a cost model that is based more closely on the network as it exists in the real world, the FCC requirements, and the current state of modeling technology, mean that ICM is the best model available to estimate Verizon's forward-looking costs in Illinois."[14]

Therefore, as shown above, Mr. Tucek draws on the Commission's rules to assert that it may not model technologies it does not plan to deploy while drawing on the FCC's rules to assert that it must model technologies it does not plan to deploy. Such an approach is inherently – and very obviously – inconsistent.

[12] Tucek Rebuttal at 27. It should also be noted that while Verizon models switch technology according to historic placement within its own network, it certainly contemplates that appropriate technology selection may change over time. For example Mr. Tucek notes at page 75 of his rebuttal testimony "…a DMS-10 may be replaced by a DMS-100, not because of line-exhaust, but because the DMS-10 processor did not have capacity to handle the amount of traffic generated in the switch …" This statement certainly suggests that the switch technology modeled by Verizon, which is based on historic switch placement, may not be forward looking.

[13] Id. at 18.

[14] Id. at 18 and 20.

Q. This example suggests that Verizon may be merely differentiating between Commission and FCC cost estimation rules. Does this present a possible explanation for Verizon's inconsistent methodological approach?

A. No. In Staff Data Request JZ 1.8.B, Staff questioned whether Verizon was applying LRSIC, TSLRIC, or TELRIC methodology to estimate switched access costs. In response, Verizon indicated, "there are no material or conceptual differences between the LRSIC, TSLRIC or TELRIC costing methodologies."[15] Consistent with this response, Verizon presents a single modeling approach to estimate both TELRIC based UNE and LRSIC based switched access cost estimates. Verizon further provides unified support for both approaches drawn interchangeably from both Commission and FCC guidance on cost estimation.

Furthermore, Mr. Tucek's interpretations of each agency's rules are independently inconsistent. That is, Mr. Tucek relies on the Commission's rules to assert that it may not model technologies it does not plan to deploy while relying on these same Commission rules to assert that it must model technologies it does not plan to deploy. Similarly, he relies on the FCC's rules to assert that Verizon must and may not model technologies it does not plan to deploy. For example, in defending the difference in the mix of fiber and copper modeled and the mix of fiber and copper in Verizon's own network Mr. Tucek asserts "Fiber is the forward-looking technology used to carry traffic from a DLC to the central office, and its use by ICM is consistent with the Commission's

Administrative Rules." Therefore, in contradiction to his interpretation of the Commission's rules as they relate to modeled switch technology, Mr. Tucek defends a departure from Verizon's own practice by asserting that the Commission's cost estimation rules require Verizon to depart from its current network configuration in modeling outside plant. Similarly, in contradiction to his interpretation of FCC rules as they relate to modeled outside plant technology, Mr. Tucek rejects a recommendation made by Mr. Boyles asserting that "…it is at odds with the FCC's stated intent that the TELRIC standard reflect the costs ILECs actually expect to incur in making network elements available to new entrants."[16] Therefore, Mr. Tucek independently relies on each agency's rules to assert both that it must and must not follow practices it employs in its own network.

Q. Can you summarize your assesment of the inconsistencies in Verizon's methodological approach?

A. Yes. Mr. Tucek indicates "ICM is not a proxy model for the simple reason that it is company-specific, and is not proffered with a set of default inputs for use by any company other than Verizon."[17] In fact, Mr. Tucek declares that "ICM is the exact opposite of a proxy model."[18] However, Mr. Tucek concedes that the network Verizon models will never be deployed by Verizon.[19] I fail to see how Verizon can present a model that it claims is company-specific and based on company

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15 Verizon Response to Staff Data Request JZ 1.8.B.
16 Tucek Rebuttal at 81.
17 Id. at 62.
18 Id. at 62.

specific inputs and yet admit that the modeled network will never actually be deployed by Verizon.

In my opinion, Verizon's schizophrenic approach to modeling is outcome-driven. That is, Verizon's interpretation of the Commission and FCC rules is applied in a manner that supports high cost outcomes in each circumstance. I recommend the Commission reject Verizon's approach.

Q. The second of your concerns regarding Verizon's model methodology is that Verizon models two different networks, one for wholesale provision and one for retail provision, yet provides service over a single network. Has Verizon adequately addressed this concern?

A. No. Verizon acknowledges that this methodology does not reflect its current network configuration, but simply asserts that by using this modeling approach both retail and wholesale cost estimates produced by Verizon are lower than they would otherwise be.[20] Verizon has provided no cost estimates that would support such an assertion, and I certainly do not suggest that the Commission accept a methodology that creates two separate networks in order to estimate the costs for Verizon's single network. In particular, the Commission should not accept a methodological choice that is, as Verizon seems to assert, results driven.

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[19] Id. at 18.
[20] Id. at 38.

Q. The final of the three concerns regarding Verizon's modeling methodology is that Verizon's ICM and underlying models (SCIS and CostMod) manipulate inputs, such as switching prices, in a manner that creates cost estimates that depart from the manner in which Verizon actually incurs such costs, and that Verizon does not make allowances for such adjustments that would adequately account for growth and prevent overestimation of costs. Has Verizon adequately addressed this concern?

A. No. As I will explain below, I have not yet been able to extract information from Verizon's model and supporting documentation that would permit me to verify that Verizon's switch costs estimates accurately reflect the vendor quotes Verizon provides in support of its estimates. In addition, Verizon has not adequately addressed why SCIS and CostMod and their associated complexity are necessary to the model, or why the model does not account for growth.

Q. Please explain your understanding of the flexibility and openness of Verizon's model.

A. There are three basic ways that a user can alter Verizon's model: 1) the user can enter values by making selections from the ICM's run time options screen, 2) the user can make changes to the numerous data tables that the ICM draws upon for inputs, or 3) the user can reprogram Verizon's model. The difficulty associated with making a change to Verizon's model depends critically on which of these three courses of action is required to make the desired change. However, it is not this tiered structure that defines the flexibility and openness of the model.

Such a tiered structure is a natural byproduct of any cost model. It is rather the nature of the assumptions that Verizon makes and includes in each of the three categories that determines the flexibility and openness of the model.

Assume, for example that the Commission disagreed only with Verizon's choice of a 12 kf maximum copper loop length and instead required Verizon to elect an 18 kf maximum copper loop length. Then Verizon's model, which enables the user to choose between these options from the ICM's run time options screen, could very easily handle this change. However, if the Commission were to reject Verizon's K-means clustering algorithm used to model the number and location of DLCs in a wire center, Verizon would need to fundamentally reprogram its model.[21] Therefore, the ultimate flexibility of the model depends on whether Verizon can make Commission-ordered changes in assumptions by merely manipulating run time options screens or data tables used as inputs into the ICM, or whether such changes require fundamental reprogramming of the model.

Q. Please explain your understanding of what SCIS/COSTMOD switch cost outputs are used as inputs into the ICM model.

A. Contained in the supporting documentation provided to Staff along with ICM release 4.4 is Book III of VII of the Model Methodology, entitled Switch Module ("Switch Module Manual").[22] At page 11, the Switch Module Manual indicates that "SCIS/COSTMOD switch investments for line and trunk terminations are pulled

[21] Id. at 66 and 67.

from the switching investment table (XXSWINV.DB) based on the switch CLLI" and also that "[T]he investment for usage and switched features for hosts is also pulled from the (XXSWINV.DB) table."

The database table ILSWINVW.DB contains investment associated with each CLLI divided between subcategories of the general investment categories Feature, Line, Termination, Usage, Miscellaneous, and RTU.

Q. Please explain how the investment categories contained in ILSWINVW.DB are defined?

A. The documentation provided in the Switch Model Manual identifies subcategories of investment types and provides very brief descriptions of these subcategories.

Q. When definitions are provided for the subcategories, is it clear what the figures drawn from the SCIS/COSTMOD data and included in ILSWINVW.DB represent?

A. No. The figures provided in ILSWINVW.DB associated with the ALEDILXDDS0 ("ALEDO") switch are identified as average investments. However, some investments included in ILSWINVW.DB are not averages at all, and for others it is not clear what the investment values have been averaged over (i.e., have they been averaged over working lines, activated lines, installed lines, trunks, minutes, etc…?).

[22] This manual is labeled "Release 4.2". Staff presumes that since Verizon updated other manuals provided to Staff that no update was necessary for this particular manual.

In Staff Data Request 5.7 Staff requested:

> Table ILSWINVx.db contains average investment values for each type of investment for each switch. Please provide a complete list detailing the number of units for each average investment value listed in table ILSWINVx.db (e.g., for category T0001 Line Termination Analog for the switch FLDNILXERS0 provide the number of Analog Line Terminations for switch FLDNILXERS0 such that if average T0001 Line Termination Analog investment for switch FLDNILXERS0 were multiplied by the number of Analog Line Terminations requested here one could produce Total Line Termination Analog Investment.)

Verizon did not provide the units requested. Instead Verizon pointed to SCIS reports and model documentation, where such information was not transparently available.

Q. Does this impede Staff's ability to evaluate Verizon's models and the estimates they produce?

A. Yes. As indicated above, the ICM draws on the various average investments contained in ILSWINVW.DB in order to produce switched access costs. In order to verify that the unit investments contained in ILSWINVW.DB accurately reflect switch costs, I have attempted to simply sum the categorical investments contained in ILSWINVW.DB for each switch in order to compare them to the total material investment that Verizon provides for each switch. That is, I have attempted to ensure that the sum of the various switching investment components does not exceed the total. To date, I, and presumably the

Company, have been unable to complete this exercise due to the difficulties associated with evaluation of the company's models and the estimates they produce.

Q. Please explain other steps you have taken to verify that the investment components in the ILSWINV.DB sum to the total investment for each switch.

A. In Staff Data Request 4.4.C. Staff asked Verizon

> Using the inputs that were entered into the SCIS or CostMod model to aggregate, please indicate what the total estimated cost produced by SCIS or CostMod is for that switch. *Please include calculations that demonstrate how the cost components produced by SCIS or CostMod models were aggregated to produce the total switch cost.* (Emphasis added.)

In its response, Verizon indicated that "The estimate produced by SCIS for this switch can be seen in ILSWINVx.db parameter L0001. ILSWINVW.DB contains a category L0001. The Switch Module Manual states "INVESTMENT TYPE L0001 --- Indicates switch investment."[23] Therefore, Verizon confirmed that L0001 represented the total estimated cost for the switch. However, in the remainder of its response Verizon provided no calculations that would permit me to convert each average investment figure for the various subcategories into total investment figures and then sum those subcategories to compare them with the total provided in L0001.

Staff attempted to obtain a response to this answer again in Staff Data Request 5.9, stating

> Staff requests clarification on Verizon's response to Staff Data Request JZ 4.4. In JZ 4.4.C. Staff requested that Verizon include calculations that demonstrate how the cost components produced by SCIS or CostMod models were aggregated to produce total switch costs. Please provide this detail. To be clear, for the GLCNILXEDS1 switch referenced in Attachment B to Verizon's response to Staff Data Request JZ 4.1-4.12 please provide each individual output value that was produced by the SCIS model and was used as an input value into the ICM model. In addition please indicate specifically where each input derived from the SCIS model for this switch can be found in the ICM input tables.

Verizon responded with a spreadsheet, GLCN.XLS, that provides computations necessary to compute five cost categories: Average Total Getting Started Investment, Average Total Minimum Line Investment, Average Total Line CCS Investment (O+T), Average Total Trunk CCS Investment (O+I), and Average Initial SS7 Link Pair(s) Investment for the GLCNILXEDS1 "GOLCONDA" switch. These five average investment figures in Verizon's response do not, however, appear the same as in ILSWINVW.DB. Presumably these values have been further disaggregated and averaged into the various investment subcategories in ILSWINVW.DB. Verizon provided no guidance on how these five investment values could be mapped to the average investment values contained in ILSWINVW.DB. For the switch referenced in this particular example there are average investment values for 53 subcategories of features, 5 subcategories of termination, and 9 subcategories of usage. Verizon has indicated that the total

[23] Switch Module Manual at 19.

switch investment parameter, L0001, includes the summation of all switch investment for line terminations, trunk terminations, call setup and minute of use and switching features.[24] Verizon provided no correlation between the five investment categories detailed its response to Staff Data Request 5.9 and the 67 subcategories of investment output by the SCIS and used as inputs into the ICM.

Q. Verizon suggests that, in response to Staff Data Request 5.11, it has substituted FCC switch cost estimates in its model and that this demonstrates the flexibility of its model[25]. Is this an accurate assessment?

A. No. What Verizon did simply amounts to calculating the percentage change in L0001 necessary to achieve the FCC value and then scaling all of the individual average investment values using this percentage value. This methodology produces changes in the model which Staff, for the reasons stated above, is unable to audit. That is, if Staff cannot verify the sum of the individual investment values contained in ILSWINVW.DB sum to the total switch value in L0001, then Staff cannot verify that the revised values sum to the FCC values. Given that Verizon has effectively "run the FCC values" through the SCIS and COSTMOD models, it is unclear whether the FCC values are reflected in the ICM inputs accurately.

Q. Could Verizon alleviate Staff's concerns regarding internal consistency within the switching investment input values?

[24] Verizon response to Staff Data Request JZ 5.6.
[25] Tucek Rebuttal at 59.

A. Yes. Verizon could provide explicit information that would enable Staff to verify that the individual investment values included in ILSWINVW.DB sum to the total investment value for each switch found in L0001. In order to do this, Verizon would need to provide a list of the units associated with each average investment value in ILSWINVW.DB. After these units are provided for each and every average investment value, Verizon could calculate the total investment associated with each subcategory of switching investment in ILSWINVW.DB. Properly conducted, Staff's concern in this area could then be relieved by a simple demonstration that the individual investments associated with each subcategory sum to the total investment for that switch (and similarly that subcategories of investment sum to total investment for every other switch in Verizon's model). To be clear, Verizon would need to, for example, demonstrate that the total investment associated with each of the 63 subcategories of switching investment sum to the total switching investment for the GOLCONDA switch. This would demonstrate that the average investment values that are used as inputs into the ICM model actually reflect the switch cost estimates Verizon uses to support these input choices.

Additionally, some of the units used to create the average investment figures found in ILSWINVW.DB, such as terminations, appear to be based on Verizon's own provision of service. However, it is unclear what units are based on Verizon's own provision of service in Illinois and what units are based on vendor usage estimates, Verizon nationwide usage estimates, or other sources. To the

extent that modeled usage falls short of actual usage Verizon's average investment figures will be overstated. Alternatively, inflated usage will understate Verizon's average investment figures. To remedy this concern, Verizon should provide for each average investment figure found in ILSWINVW.DB the number of actual units as provisioned in its current network. From this list, Verizon should calculate total investment for each subcategory based on actual usage and then sum subcategories to get total investment for each switch. In this way, Verizon could alleviate concerns that it if the Commission were to adopt rates based on Verizon's switch cost estimates that such estimates would not result in either significant overrecovery of switch costs or significant underrecovery of switch costs. Absent such a demonstration, Staff is unable to provide guidance to the Commission on whether Verizon's estimates reasonably reflect the Vendor quotes that Verizon relies on in support of its switch cost estimates.

Q. Your concern on this issue also related to growth adjustments. Has Verizon addressed these concerns?

A. No. Above I provided explicit guidance on how Verizon could provide evidence that would demonstrate that the average investment values it inputs into the ICM generate, based on model and actual usage, total investment figures matching those in Verizon's vendor quotes. This would address my concerns regarding internal consistency in the switch cost estimates. However, the above noted exercise provides a simple illustration of why Verizon should build growth adjustments into its model. Should Verizon's actual usage grow over time the

462 average investment values used as inputs into the ICM will, when multiplied by
463 actual usage, sum to greater values. Therefore, rates based on Verizon's
464 average investment values will yield more revenue and presumably result in
465 overrecovery of costs relative to total costs as reflected in Verizon's vendor
466 quotes.
467
468 These demonstrations would provide Staff and the Commission with the analysis
469 necessary to verify whether Verizon's switch estimates accurately reflect the
470 vendor quotes Verizon relies on to support its estimates. However, I fail to
471 understand why such a convoluted process is necessary to produce switch costs
472 estimates.
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474 **Q. Please explain how Verizon might improve its methodology and at the**
475 **same time better enable Commission and Staff to verify its estimates.**
476 A. Verizon might improve its methodology and ease the verification of its estimates
477 by forgoing its use of the SCIS and COSTMOD models. According to the Vendor
478 quotes provided by Verizon in response to Staff Data Request JZ 1.6, the prices
479 Verizon pays vendors for switching equipment is a not a function of calls or
480 minutes of use, but rather is a function of line counts and switch make (5ESS,
481 DMS100, etc.). If these quotes accurately reflect how Verizon incurs its costs,
482 then Verizon's model should produce flat-rated UNE switch cost estimates.[26] As

[26] While I suggest that Verizon forgo use of the SCIS and CostMod models I note that such a change would likely result in reprogramming of the model. The fact that implementing such a recommendation would be exceedingly difficult leads me to conclude that Verizon's model is not open and flexible and should be rejected.

addressed in my direct testimony, when the switching associated with a line is shared by numerous parties then Verizon may need to allocate such shared costs based on usage. However, allocation in this manner should not be taken to mean that Verizon's own costs are usage sensitive. That is, according to the vendor quotes supplied by Verizon in support of its model Verizon pays for switching based on line counts and switch make and not based upon usage.[27]

Q. Please assess the evidence Mr. Tucek provides in support of his assertion that the prices paid by Verizon for switching equipment are usage sensitive.

A. In his rebuttal testimony, Mr. Tucek asserts that "…line-size is not the only determinant of switch costs – the usage characteristics of each switch are equally important."[28] To support this assertion Mr. Tucek reports that the results of regression analysis "…show that switch technology and line size explain only 52 percent of the variation in switching costs for Verizon's base unit switches, and only 66 percent of the variation in switching costs for remote switches."[29]

Mr. Tucek's interpretation of his regression results is erroneous. Verizon has provided vendor quotes that indicate that its switch costs are incurred based on

[27] The Commission reached a similar conclusion when examining Ameritech Illinois' switch cost estimates, finding that "[b]ecause Ameritech incurs switching costs on a predominately per-line basis, we find it consistent with the fundamental principles of cost causation that the ULS subscriber should also pay the ULS element primarily on a per line basis, without a usage charge." Illinois Commerce Commission On Its Own Motion, Investigation into forward looking cost studies and rates of Ameritech Illinois for interconnection, network elements, transport and termination of traffic, Illinois Bell Telephone Company, Proposed rates, terms and conditions for unbundled network elements, Docket No. 96-0486/0569 (Consolidated), February 17, 1998, at 58.

[28] Tucek Rebuttal at 74.

line size and switch technology. Based on these vendor quotes, these are the only variables that determine the prices Verizon pays for switches. That is, Verizon's vendor quotes list a single price for DMS-100 with 60,000 lines. However Verizon's regression can only explain a fraction of its costs by examining line counts and technology. There are two possible explanations for this result.

First, Mr. Tucek might have misinterpreted the regression results. Regression analysis is generally used to determine the relationships between variables when those relationships are unknown. However, the relationship is not unknown in this case. According to Verizon's vendor quotes, switch costs are a function solely of line counts and technology. An estimation of the relationship that differs from the actual known relationship clearly indicates that the estimation technique was in error. For example, though Verizon does not actually support its regression by either specifying functional assumptions, regression inputs, or regression outputs, it is highly likely that Verizon modeled switch costs as a linear function of line counts. However, while switch costs are a function of line counts they are not, as the vendor quotes indicate, a linear function of line counts. Therefore, to model them as linear function in the regression will produce incorrect estimates of the relationship. These estimation errors could be interpreted to suggest that line counts and switch type do not explain all of Verizon's switch costs. However, this is simply a misreading of the regression results.

[29] Id. at 74.

Second, the regression, which examines the modeled switch investment produced by SCIS and CostMod rather than investment taken directly from vendor quotes, may confirm that SCIS and CostMod produce results that do not accurately reflect Verizon's supplied vendor quotes. Nowhere does Mr. Tucek present any evidence that supports his contention that if Verizon purchases two DMS-100 switches each with 60,000 lines that Verizon will pay different prices to Nortel based on usage per line or usage per trunk in the respective wire centers. If, however, after manipulation within SCIS and CostMod the switch investment is no longer of function of line counts and switch type, then SCIS and CostMod have produced cost estimates that are not reflective of the costs Verizon actually incurs.

Mr. Tucek also argues that switching costs are usage based since Verizon currently employs a measured service rate structure for local service.[30] The notion that Verizon's retail prices determine its costs is simply absurd. If Verizon is accurately measuring costs and those costs are inconsistent with its retail prices then its retail prices are simply not cost based. It is an incorrect notion that if its cost estimates do not match retail prices that cost estimates must be modified to reflect retail prices. Verizon has provided vendor quotes in support of its estimates that indicate that Verizon incurs switching costs according to two variables: access lines and switch make. If this information is accurate, and the

[30] Id. at 39.

Commission orders Verizon to adopt costs based rates for local service, then Verizon should charge for local service on a flat-rate, per-line basis.

Q. Has Staff provided Verizon an opportunity to provide evidence supporting its assertion that switch prices paid by Verizon to manufacturers are usage sensitive?

A. Yes. Staff submitted a data request to Verizon requesting any materials or information that would support the notion that the prices Verizon pays switch vendors for switches are usage sensitive.[31]

In response to Staff's data requests, Verizon provided Nortel documents taken from its DMS Service Ready II Initial Switch Guideline. These documents appear to confirm that, at a minimum, a substantial portion of the price Verizon pays Nortel for switches is determined by line counts and is not usage sensitive.[32]

Verizon also provided engineering notes submitted by Verizon to vendors, quotes Verizon presumably submitted when it sought vendor quotes for this proceeding.[33] However, this information is merely suggestive. There is no evidence that the vendor quotes produced were based on the supplied usage information. Further, the usage information contained in the engineering

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31 Staff Data Request JZ 6.1.
32 Verizon Response to Staff Data Request JZ 6.1
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33 Id.

information supplied to the vendors appears far less detailed than that used as inputs into the SCIS and CostMod models.

Therefore, the body of evidence submitted by Verizon continues to suggest that the bulk of its switch costs are determined based on switch manufacturer and line counts, not on usage.

Q. In your direct testimony you indicated that the three concerns identified above lead you to the conclusion that Verizon's model does not comply with the Commission's Part 791 and 792 cost rules. Please explain how Verizon has addressed your concern?

A. Mr. Tucek contends that I have not cited specific portions of the Commission rules, thereby implying that my criticisms are unfounded.[34] However, in my direct testimony I explicitly noted that the Commission's Part 791 and 792 cost rules do not provide every detail required to complete a cost study and that implementation of these rules would require Verizon to make "judgement calls" consistent with what a reasonable party would interpret as the intent of these rules.[35] I was also explicit in noting that my primary criticism of the model and the fundamental reason I believe it does not comply with the Commission's rules is that Verizon's approach is an amalgamation of seemingly contradictory "basic" methodologies. As indicated above, Verizon's rebuttal testimony only furthers this concern.

[34] Tucek Rebuttal at 24.
[35] Zolnierek Direct at 22.

Mr. Tucek implies that my criticism of Verizon's compliance with Commission cost rules is unfounded because it does not draw on explicit Commission guidance. However, in order to defend Verizon's choice to model two different network configurations for retail and wholesale networks, he asserts that "[t]he Commission's rules say nothing about the specific network assumptions underlying a cost study – they only state that the costs be "calculated as if the service were being provided for the first time and shall reflect planned adjustments in the firm's plant and equipment" and that they be based on the least-cost technology available whose cost can be reasonably estimated "based on available data."[36] Therefore Verizon defends its modeling methodology by relying on the flexibility it is given to implement the Commission rules. That is, Verizon relies on compliance with what it contends is the "spirit" of the Commission's rules to defend its choices. I recommend that the Commission reject Verizon's assertion and conclude that Verizon has violated the "spirit" of the Commission's rules.

Q. Does this conclude your testimony?

A. Yes.

[36] Tucek Rebuttal at 26 and 27.